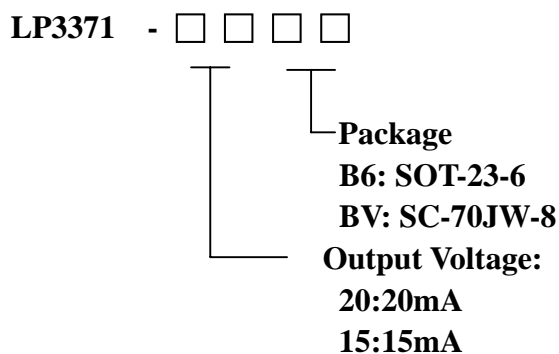


Low Dropout Current Source White-LED Driver

General Description

The LP3371 low-dropout bias supply for white LEDs is a high-performance alternative to the simple ballast resistors used in conventional white LED designs. The LP3371 uses an internal resistor to set the bias current for Three LEDs, which are matched to 3%. The LP3371's advantages over much lower bias variation with supply voltage variation, significantly lower dropout voltage, and in some applications, significantly improved efficiency. The LP3371 requires a 65mV dropout at a 15mA load on each output to match the LED brightness.

Ordering Information



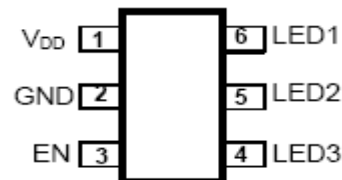
Features

- ◆ No external component required.
- ◆ LED sink current 20 mA and 15mA
- ◆ 90% efficiency
- ◆ Supply voltage range 2.7V ~ 6V
- ◆ 3% LED Current Matching
- ◆ Simple LED Brightness Control
- ◆ Shutdown mode drops less than 1μA
- ◆ Short-circuit/over-temperature protection
- ◆ 2kV ESD Rating
- ◆ SC70JW-8 or SOT23-6 package

Applications

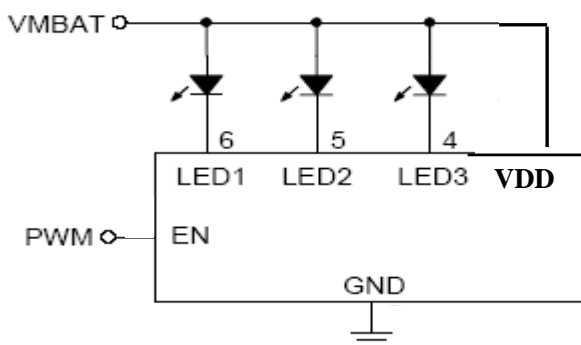
- ◇ Portable Media Players/MP3 players
- ◇ Cellular and Smart mobile phone
- ◇ PDA
- ◇ DSC

Pin Configurations

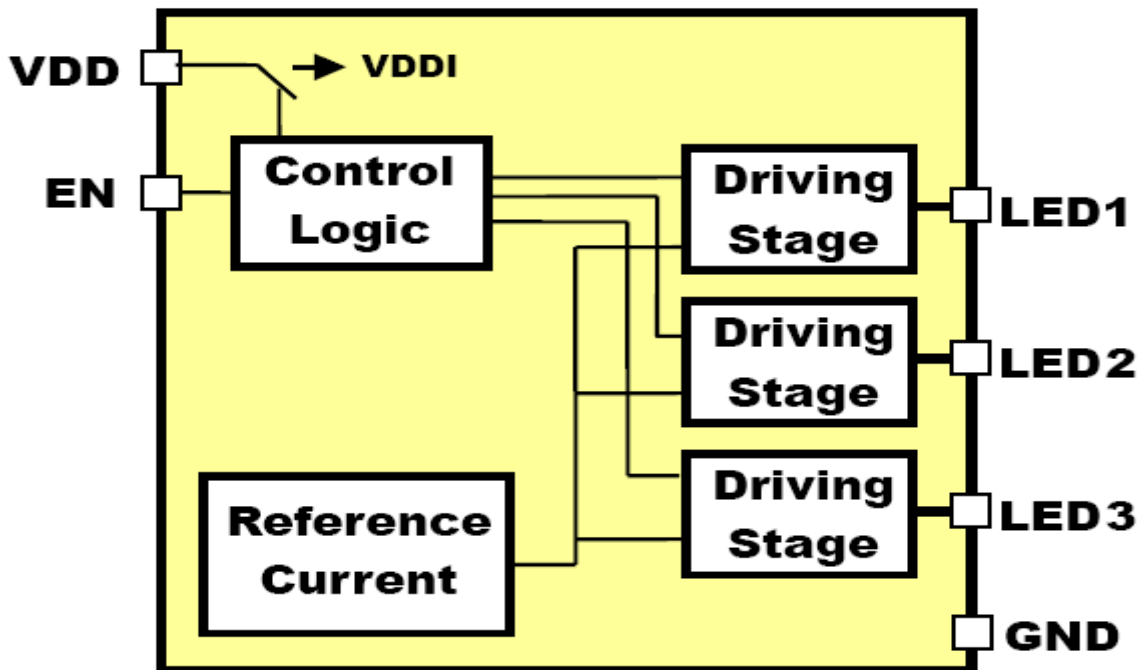


SOT-23-6 /SC-70

Typical Application Circuit



Function Block Diagram



Absolute Maximum Ratings

RECOMMENDED OPERATING CONDITIONS					
Parameter	Symbol	Min	Typ	Max	Unit
Supply Voltage	V _{DD}	2.7		6	V
Output Sink current	I _{LED}			25	mA
Operating free-air temperature range	T _a	-40		+85	°C

Electrical Characteristics

Symbol	Description	Conditions	Min	Typ	Max	Units
V _{IN}	Input Voltage		2.7		6	V
I _{SHDN}	Shutdown Supply Current	2.7V < V _{IN} < 3.6V, I _{OUT} = 0mA, V _{SHDN} = 0		0.01	1	µA
		3.6V < V _{IN} < 5V, I _{OUT} = 0mA, V _{SHDN} = 0		0.1	1	
η	Efficiency	V _{IN} = 3.6V, V _{LED} = 3.3V		92		%
V _{IH}	SHDN Input Threshold High		1.7			V
V _{IL}	SHDN Input Threshold Low				0.4	V
I _{IH}	SHDN Input Current High	SHDN = V _{IN}	200		400	µA
I _{IL}	SHDN Input Current Low	SHDN = GND	-1		1	µA
t _{ON}	V _{OUT} Turn-on time	V _{IN} = 3V, I _{OUT} = 0mA		0.01		ms
I _{SC}	Short-circuit current	V _{IN} = 3V, V _{OUT} = GND, SHDN = 3V		400		mA

Packing information

PACKAGE

Surface Mount SOT-26 (DB)

